**To:** CN=Barbara Butler/OU=CI/O=USEPA/C=US@EPA;CN=Phil North/OU=R10/O=USEPA/C=US@EPA;CN=Jeff Frithsen/OU=DC/O=USEPA/C=US@EPA;CN=Kate Schofield/OU=DC/O=USEPA/C=US@EPA[]; N=Phil North/OU=R10/O=USEPA/C=US@EPA;CN=Jeff Frithsen/OU=DC/O=USEPA/C=US@EPA[]; N=Jeff Frithsen/OU=DC/O=USEPA/C=US@EPA;CN=Kate Schofield/OU=DC/O=USEPA/C=US@EPA[]; N=Kate Schofield/OU=DC/O=USEPA/C=US@EPA[]

Cc: []

From: CN=Glenn Suter/OU=CI/O=USEPA/C=US

**Sent:** Thur 12/20/2012 1:06:42 PM

Subject: Fw: Update

Slow progress on the aqueous phase of the slurry.

----- Forwarded by Glenn Suter/CI/USEPA/US on 12/20/2012 08:05 AM -----

From: "Adams, William (HSEC)" < William.Adams@riotinto.com>

To: Glenn Suter/CI/USEPA/US@EPA

Cc: Katrien Delbeke <kmd@eurocopper.org>

Date: 12/19/2012 07:05 PM

Subject: Update

## Glenn

Just so you don't think we are ignoring you I have been looking over the data we have on copper concentrates. The question you pose is an interesting one because there are several aspects to what happens if a pipe breaks that is carrying concentrate. To start with one would expect that the pipeline would contain a slurry in the range of 30% solids (plus or minus 10%). Additionally the solids would be in the range of 20-30% copper – this of course varies by mine site and could be a bit more if the copper grades are real high. Since we now have an estimate of the amount of copper in the solids we need an estimate of the copper in the aqueous phase. Should a spill occur the solids will settle out quickly (a few meters to hundreds of meter depending on the volume released). The aqueous phase may travel a bit farther. We have looked at the amount of copper that goes into solution at 1, 10, 100 mg/L when it is stirred for 7 day – but this is not realistic given the percent solids in a pipeline. I have asked our analytical laboratory to measure the copper concentration in the aqueous phase of the copper concentrate slurry after it is centrifuged. We expect it to be at saturation, however, saturation is function of a number of variables – so we will see what the results bring. I expect results around January 12. Stay tuned.

You can use any of the information I have provided or will provide – but please do not ascribe this to the Kennecott mine. You can cite me as personal communication if you like.

Bill

Dr. William J. Adams General Manager Legacy Rio Tinto +1-801-558-0222 (mobile)

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